AMENDMENT(S) TO THE CLAIMS

1-145 (Canceled)

146. (New) A system for drying one of a tissue and a hygiene web, comprising:

a drying apparatus;

a permeable structured fabric carrying the web over said drying apparatus;

a permeable dewatering fabric contacting the web and being guided over said drying apparatus; and

a mechanism for applying pressure to said permeable structured fabric, the web, and said permeable dewatering fabric at said drying apparatus.

147. (New) The system of claim 146, wherein said permeable structured fabric is a TAD fabric, said drying apparatus including a suction roll.

148. (New) The system of claim 146, wherein said drying apparatus includes a suction roll.

149. (New) The system of claim 146, wherein said drying apparatus includes a suction box.

150. (New) The system of claim 146, wherein said drying apparatus applies one of a vacuum and a negative pressure to a surface of said permeable dewatering fabric which is opposite to a surface of said permeable dewatering fabric which contacts the web.

151. (New) The system of claim 146, the system being structured and arranged to cause an airflow first through said permeable structured fabric, then through the web, then through said permeable dewatering fabric and into said drying apparatus.

152. (New) The system of claim 146, wherein said permeable dewatering fabric includes at least one smooth surface.

153. (New) The system of claim 152, wherein said permeable dewatering fabric includes a felt with a batt layer.

154. (New) The system of claim 153, wherein said batt layer includes a plurality of batt fibers, said batt fibers having a diameter equal to or less than 11 dtex

155. (New) The system of claim 154, wherein said diameter is equal to or less than 4.2 dtex.

156. (New) The system of claim 155, wherein said diameter is equal to or less than 3.3 dtex.

157. (New) The system of claim 152, wherein said permeable dewatering fabric includes one of a blend of batt fibers and a vector layer which contains fibers which are equal to or greater than approximately 67 dtex.

158. (New) The system of claim 152, wherein a specific surface of said permeable dewatering fabric is equal to or greater than 35 m^2/m^2 felt area

159. (New) The system of claim 158, wherein said specific surface is equal to or greater than 65 m^2/m^2 felt area.

160. (New) The system of claim 159, wherein said specific surface is equal to or greater than 100 m^2/m^2 felt area.

161. (New) The system of claim 152, wherein a specific surface of said permeable dewatering fabric is equal to or greater than 0.04 m^2/g felt weight

162. (New) The system of claim 161, wherein said specific surface is equal to or greater than 0.065 m^2/g felt weight.

163. (New) The system of claim 162, wherein said specific surface is equal to or greater than 0.075 m^2/g felt weight.

164. (New) The system of claim 152, wherein said permeable dewatering fabric has a density of equal to or higher than 0.4 g/cm^3.

165. (New) The system of claim 164, wherein said density is equal to or higher than 0.5 g/cm^3.

166. (New) The system of claim 165, wherein said density is equal to or higher than 0.53 g/cm^3.

167. (New) The system of claim 146, wherein said permeable dewatering fabric includes a combination of different dtex fibers.

168. (New) The system of claim 146, wherein said permeable dewatering fabric includes a plurality of batt fibers and an adhesive to supplement fiber to fiber bonding.

169. (New) The system of claim 146, wherein said permeable dewatering fabric includes batt fibers which have at least one of low melt fibers and particles and resin treatments.

170. (New) The system of claim 146, wherein said permeable dewatering fabric has a thickness of less than approximately 1.50 mm thick.

171. (New) The system of claim 170, wherein said thickness is less than approximately 1.25 mm.

172. (New) The system of claim 171, wherein said thickness is less than approximately 1.00 mm.

173. (New) The system of claim 146, wherein said permeable dewatering fabric includes weft yarns.

174. (New) The system of claim 173, wherein said weft yarns include multifilament yarns which are one of twisted and plied.

175. (New) The system of claim 173, wherein said weft yarns include solid mono strands which are less than approximately 0.30 mm diameter.

176. (New) The system of claim 175, wherein said solid mono strands are less than approximately 0.20 mm diameter.

177. (New) The system of claim 176, wherein said solid mono strands are less than approximately 0.10 mm diameter.

178. (New) The system of claim 173, wherein said weft yarns include one of single strand yarns, twisted yarns, cabled yarns, yarns which are joined side by side, and yarns which are generally flat shaped.

179. (New) The system of claim 146, wherein said permeable dewatering fabric includes warp yarns.

180. (New) The system of claim 179, wherein said warp yarns include monofilament yarns having a diameter of between approximately 0.30 mm and approximately 0.10 mm.

181. (New) The system of claim 179, wherein said warp yarns include one of twisted and single filaments which are approximately 0.20 mm in diameter.

182. (New) The system of claim 146, wherein said permeable dewatering fabric is needle punched and includes straight through drainage channels.

183. (New) The system of claim 146, wherein said permeable dewatering fabric is needle punched and utilizes a generally uniform needling.

184. (New) The system of claim 146, wherein said permeable dewatering fabric includes a base fabric and a thin hydrophobic layer applied to a surface of said base fabric.

185. (New) The system of claim 146, wherein said permeable dewatering fabric has an air permeability of between approximately 5 to approximately 100 cfm.

186. (New) The system of claim 146, wherein said permeable dewatering fabric has an air permeability which is approximately 19 cfm or higher.

187. (New) The system of claim 186, wherein said air permeability is approximately 35 cfm or higher.

188. (New) The system of claim 146, wherein said permeable dewatering fabric has a mean pore diameter in the range of between approximately 5 to approximately 75 microns.

189. (New) The system of claim 146, wherein said permeable dewatering fabric has a mean pore diameter of approximately 25 microns or higher.

190. (New) The system of claim 189, wherein said mean pore diameter is approximately 35 microns or higher.

191. (New) The system of claim 146, wherein said permeable dewatering fabric includes at least one synthetic polymeric material.

192. (New) The system of claim 146, wherein said permeable dewatering fabric includes wool.

193. (New) The system of claim 146, wherein said permeable dewatering fabric includes a polyamide material.

194. (New) The system of claim 193, wherein said polyamide material is polycaprolactam.

195. (New) The system of claim 146, wherein said permeable dewatering fabric includes a woven base cloth which is laminated to an anti-rewet layer.

196. (New) The system of claim 195, wherein said woven base cloth includes a woven endless structure which includes monofilament warp yarns having a diameter of between approximately 0.10 mm and approximately 0.30 mm.

197. (New) The system of claim 196, wherein said diameter is approximately 0.20 mm.

198. (New) The system of claim 195, wherein said woven base cloth includes a woven endless structure which includes multifilament yarns which are twisted or plied.

199. (New) The system of claim 195, wherein said woven base cloth includes a woven endless structure including multifilament yarns which are solid mono strands of less than approximately 0.30 mm diameter.

200. (New) The system of claim 199, wherein said solid mono strands are approximately 0.20 mm diameter.

201. (New) The system of claim 199, wherein said solid mono strands are approximately 0.10 mm diameter.

202. (New) The system of claim 146, wherein said woven base cloth includes a woven endless structure including weft yarns.

203. (New) The system of claim 146, wherein said weft yarns includes one of single strand yarns, twisted or cabled yarns, yarns which are joined side by side, and flat shaped yarns.

204. (New) The system of claim 146, wherein said permeable dewatering fabric includes a base fabric layer and an anti-rewet layer.

205. (New) The system of claim 204, wherein said anti-rewet layer includes a thin elastomeric cast permeable membrane.

206. (New) The system of claim 205, wherein said elastomeric cast permeable membrane is equal to or less than approximately 1.05 mm thick.

207. (New) The system of claim 205, wherein said elastomeric cast permeable membrane is adapted to form a buffer layer of air so as to delay water from traveling back into the web.

208. (New) The system of claim 204, wherein said anti-rewet layer and said base fabric layer are connected to each other by lamination.

209. (New) A method of connecting an anti-rewet layer and a base fabric layer, the method comprising the steps of melting a thin elastomeric cast permeable membrane into the base fabric layer.

210. (New) A method of connecting an anti-rewet layer and a base fabric layer, the method comprising the step of needling no more than two thin layers of batt fiber on a face side of the base fabric layer with no more than two thin layers of batt fiber on a back side of said base fabric layer.

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211. (New) The method of claim 210, further comprising the step of connecting a thin hydrophobic layer to at least one surface.

212. (New) The system of claim 211, wherein said permeable dewatering fabric has an air permeability of approximately 130 cfm or lower.

213. (New) The system of claim 212, wherein said air permeability is approximately 100 cfm or lower.

214. (New) The system of claim 213, wherein said thin hydrophobic layer has an air permeability of approximately 80 cfm or lower.

215. (New) The system of claim 146, wherein said permeable dewatering fabric has a mean pore diameter of approximately 140 microns or lower.

216. (New) The system of claim 215, wherein said mean pore diameter is approximately 100 microns or lower.

217. (New) The system of claim 216, wherein said mean pore diameter is approximately 60 microns or lower.

218. (New) The system of claim 146, wherein said permeable dewatering fabric includes an anti-rewet membrane having a thin woven multifilament textile cloth which is connected to a thin perforated hydrophobic film by lamination.

219. (New) The system of claim 218, wherein said permeable dewatering fabric has an air permeability of approximately 35 cfm or less.

220. (New) The system of claim 219, wherein said air permeability is approximately 25 cfm or less.

221. (New) The system of claim 218, wherein said permeable dewatering fabric has a mean pore size of approximately 15 microns.

222. (New) The system of claim 146, wherein said permeable dewatering fabric includes vertical flow channels.

223. (New) The system of claim 222, wherein said vertical flow channels are formed by printing polymeric materials onto a base fabric.

224. (New) The system of claim 222, wherein said vertical flow channels are formed in a weave pattern which uses low melt yarns that are thermoformed to create channels and air blocks.

225. (New) The system of claim 222, wherein said vertical flow channels are formed by needle punching, said needle punching enhancing a surface characteristic and improving a wear resistance.

226. (New) A system for drying a web, comprising:

a vacuum roll:

a permeable structured fabric carrying the web over said vacuum roll ;

a permeable dewatering fabric contacting the web and being guided over said vacuum roll ; and

a mechanism for applying pressure to said permeable structured fabric, the web, and said permeable dewatering fabric at said vacuum roll.

227. (New) The system of claim 226, wherein said mechanism includes a hood which produces an overpressure.

228. (New) The system of claim 226, wherein said mechanism includes a belt press which is adapted to increase in speed without causing a reduction is web quality.

229. (New) The system of claim 226, wherein said belt press includes a permeable belt.

230. (New) A method of drying a web comprising the steps of:

providing a system including:

a vacuum roll:

a permeable structured fabric carrying the web over said vacuum roll ;

a permeable dewatering fabric contacting the web and being guided over said vacuum roll ; and

a mechanism for applying pressure to said permeable structured fabric, the web, and said permeable dewatering fabric at said vacuum roll;

moving the web on said permeable structured fabric over said vacuum roll;

guiding said permeable dewatering fabric in contact with the web over said vacuum roll;

applying mechanical pressure to said permeable structured fabric, the web, and said permeable dewatering fabric at said vacuum roll; and

suctioning during said applying step said vacuum roll, said permeable structured fabric, the web, and said permeable dewatering fabric.

231. (New) A belt press for a paper machine, the belt press comprising:

a roll having an exterior surface;

a permeable belt including a first side being guided over a portion of said exterior surface of said roll, said permeable belt having a tension of at least approximately 30 kN/m, said first side having an open area of at least approximately 25% and a contact area of at least approximately 10%, a web travels between said permeable belt and said exterior surface of said roll.

232. (New) The belt press of claim 231, wherein said contact area is at least approximately 25%.

233. (New) The belt press of claim 231, wherein said first side faces said exterior surface, said permeable belt exerting a pressing force on said roll.

234. (New) The belt press of claim 231, wherein said permeable belt has through openings.

235. (New) The belt press of claim 231, wherein said permeable belt includes through openings arranged in a generally regular symmetrical pattern.

236. (New) The belt press of claim 231, wherein said permeable belt includes generally parallel rows of through openings, said rows being oriented along a machine direction.

237. (New) The belt press of claim 231, wherein said permeable belt exerts a pressing force on said roll in the range of between approximately 30 KPa to approximately 150 KPa.

238. (New) The belt press of claim 231, wherein said permeable belt includes through openings and a plurality of grooves, each of said plurality of grooves intersecting a different set of through openings.

239. (New) The belt press of claim 238, wherein said first side faces said exterior surface and wherein said permeable belt exerts a pressing force on said roll.

240. (New) The belt press of claim 238, wherein said plurality of grooves are arranged on said first side.

241. (New) The belt press of claim 238, wherein each of said plurality of grooves includes a width, each of said through openings includes a diameter, said diameter being greater than said width.

242. (New) The belt press of claim 231, wherein said tension of said belt is greater than approximately 50 KN/m.

243. (New) The belt press of claim 242, wherein said tension of said belt is greater than approximately 60 KN/m.

244. (New) The belt press of claim 243, wherein said tension of said belt is greater than approximately 80 KN/m.

245. (New) The belt press of claim 231, wherein said roll is a vacuum roll.

246. (New) The belt press of claim 231, wherein said roll is a vacuum roll having an interior circumferential portion.

247. (New) The belt press of claim 246, wherein said vacuum roll includes at least one vacuum zone arranged within said interior circumferential portion.

248. (New) The belt press of claim 231, wherein said roll includes a vacuum roll having a suction zone.

249. (New) The belt press of claim 248, wherein said suction zone has a circumferential length of between approximately 200 mm and approximately 2,500 mm.

250. (New) The belt press of claim 249, wherein said circumferential length is in the range of between approximately 800 mm and approximately 1,800 mm.

251. (New) The belt press of claim 250, wherein said circumferential length is in the range of between approximately 1,200 mm and approximately 1,600 mm.

252. (New) A fibrous material drying arrangement comprising:

a roll; and

an endlessly circulating permeable extended nip press (ENP) belt guided over said roll, said ENP belt being subjected to a tension of at least approximately 30 KN/m, said ENP belt having a side with an open area of at least approximately 25% and a contact area of at least approximately 10%, wherein a web travels between the ENP belt and said roll.

253. (New) The drying arrangement of claim 252, wherein said contact area is at least approximately 25%.

254. (New) A permeable extended nip press (ENP) belt which is capable of being subjected to a tension of at least approximately 30 KN/m, the permeable ENP belt comprising at least one side having an open area of at least approximately 25% and a contact area of at least approximately 10%.

255. (New) The ENP belt of claim 254, wherein said contact area is at least approximately 25%.

256. (New) The ENP belt of claim 254, wherein said open area is defined by through openings and said contact area is defined by a planar surface.

257. (New) The ENP belt of claim 254, wherein said open area is defined by through openings and said contact area is defined by a planar surface without openings, recesses, or grooves.

258. (New) The ENP belt of claim 254, wherein said open area is defined by through openings and grooves, and said contact area is defined by a planar surface without openings, recesses, or grooves.

259. (New) The ENP belt of claim 254, wherein said open area is between approximately 15% and approximately 50%, and said contact area is between approximately 50% and approximately 85%.

260. (New) The ENP belt of claim 254, wherein said permeable ENP belt is a spiral link fabric.

261. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes at least one spiral link fabric.

262. (New) The ENP belt of claim 261, wherein an open area of said at least one spiral link fabric is between approximately 30% and approximately 85%, and a contact area of said at least one spiral link fabric is between approximately 15% and approximately 70%.

263. (New) The ENP belt of claim 262, wherein said open area is between approximately 45% and approximately 85%, and said contact area is between approximately 15% and approximately 55%.

264. (New) The ENP belt of claim 263, wherein said open area is between approximately 50% and approximately 65%, and said contact area is between approximately 35% and approximately 50%.

265. (New) The ENP belt of claim 254, wherein said permeable ENP belt has through openings arranged in a generally symmetrical pattern.

266. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes through openings arranged in generally parallel rows relative to a machine direction.

267. (New) The ENP belt of claim 254, wherein said permeable ENP belt is an endless circulating belt.

268. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes through openings, said at least one side of said permeable ENP belt including a plurality of grooves, each of said plurality of grooves intersecting a different set of through holes.

269. (New) The ENP belt of claim 268, wherein each of said plurality of grooves has a width, each of said through openings having a diameter, said diameter being greater than said width.

270. (New) The ENP belt of claim 269, wherein each of said plurality of grooves extend into said permeable ENP belt by an amount which is less than a thickness of said permeable belt.

271. (New) The ENP belt of claim 254, wherein said tension is greater than approximately 50 KN/m.

272. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes a flexible spiral link fabric.

273. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes at least one spiral link fabric.

274. (New) The ENP belt of claim 273, wherein said at least one spiral link fabric includes a synthetic material.

275. (New) The ENP belt of claim 273, wherein said at least one spiral link fabric includes stainless steel.

276. (New) The ENP belt of claim 254, wherein said permeable ENP belt includes a permeable fabric which is reinforced by at least one spiral link belt.

277. (New) A method of drying a paper web in a press arrangement, the method comprising the steps of:

moving the paper web, disposed between at least one first fabric and at least one second fabric, between a support surface and a pressure producing element; and

moving a fluid through the paper web, the at least one first and second fabrics, and said support surface.

278. (New) A belt press for a paper machine, the belt press comprising:

a vacuum roll having an exterior surface and at least one suction zone;

a permeable belt having a first side, said permeable belt being guided over a portion of said exterior surface of said vacuum roll, said permeable belt having a tension of at least approximately 30 KN/m, said first side having an open area of at least approximately 25% and a contact area of at least approximately 10%, wherein a web travels between the permeable belt and said exterior surface of said roll.

279. (New) The belt press of claim 278, wherein said contact area is at least approximately 25%.

280. (New) The belt press of claim 278, wherein said at least one suction zone includes a circumferential length of between approximately 200 mm and approximately 2,500 mm.

281. (New) The belt press of claim 280, wherein said circumferential length defines an arc of between approximately 80 degrees and approximately 180 degrees.

282. (New) The belt press of claim 281, wherein said arc is between approximately 80 degrees and approximately 130 degrees.

283. (New) The belt press of claim 282, wherein said at least one suction zone is adapted to apply vacuum for a dwell time of at least approximately 40 ms.

284. (New) The belt press of claim 283, wherein said dwell time is at least approximately 50 ms.

285. (New) The belt press of claim 278, wherein said permeable belt exerts a pressing force on said vacuum roll for a first dwell time which is one of equal to and greater than approximately 40 ms.

286. (New) The belt press of claim 285, wherein said at least one suction zone is adapted to apply a vacuum for a second dwell time which is one of equal to and greater than approximately 40 ms.

287. (New) The belt press of claim 286, wherein said second dwell time is one of equal to and greater than approximately 50 ms.

288. (New) The belt press of claim 287, wherein said first dwell time is one of equal to and greater than approximately 50 ms.

289. (New) The belt press of claim 278, wherein said permeable belt includes at least one spiral link fabric.

290. (New) The belt press of claim 289, wherein said at least one spiral link fabric includes a synthetic material.

291. (New) The belt press of claim 289, wherein said at least one spiral link fabric includes stainless steel.

292. (New) The belt press of claim 289, wherein said at least one spiral link fabric has a tension which is between approximately 30 KN/m and approximately 80 KN/m.

293. (New) The belt press of claim 292, wherein said tension is between approximately 35 KN/m and approximately 50 KN/m.

294. (New) A method of pressing and drying a paper web, the method comprising the steps of:

pressing, with a pressure producing element, the paper web between at least one first fabric and at least one second fabric; and

simultaneously moving a fluid through the paper web and the at least one first and second fabrics.

295. (New) The method of claim 294, wherein said pressing occurs for a dwell time which is one of equal to and greater than approximately 40 ms.

296. (New) The method of claim 295, wherein said dwell time is one of equal to and greater than approximately 50 ms.

297. (New) The method of claim 294, wherein said simultaneously moving step occurs for a dwell time one of equal to and greater than approximately 40 ms.

298. (New) The method of claim 297, wherein said dwell time is one of equal to and greater than approximately 50 ms.

299. (New) The method of claim 294, wherein said pressure producing element includes a device which applies a vacuum.

300. (New) The method of claim 299, wherein said vacuum is greater than approximately 0.5 bar.

301. (New) The method of claim 300, wherein said vacuum is greater than approximately 1 bar.

302. (New) The method of claim 301, wherein said vacuum is greater than approximately 1.5 bar.